

July 17th, 1855.

Major LE CONTE in the Chair.

A letter was read from the Corresponding Secretary of the California Academy of Natural Sciences, transmitting the Proceedings of that Society, vol. i. pp. 1—45.

Dr. Leidy presented a paper intended for publication in the Proceedings, entitled, "Descriptions of some new Marine Invertebrata, by William Stimpson, Zoologist to the U. S. Surveying Expedition to the North Pacific, Japan Seas, &c., under Commander C. Ringgold, U. S. N." Communicated by the Smithsonian Institution. Referred to Dr. Leidy, Dr. Bridges and Mr. Cassin.

July 24th.

Vice President BRIDGES in the Chair.

Letters were read—

From the Trustees of the New York State Library, dated Albany, 20th July, 1855, acknowledging the receipt of last No. of the Proceedings.

From the Smithsonian Institution, dated Washington, March 26, and June 16th, 1855, also acknowledging receipt of same, and of the Journal, Part i. Vol. iii.

From C. F. Hagedorn, Esq., Bavarian Consul, announcing the decease of Dr. J. G. Flügel, of Leipsic.

Dr. J. Aitken Meigs read a paper intended for publication in the Journal, entitled, "Relation of Atomic Heat to Crystalline Form." Referred to Dr. Leidy, Dr. Bridges and Dr. Drysdale.

July 31st.

Vice President BRIDGES in the Chair.

The Committee on Mr. Stimpson's paper, read 17th inst., reported in favor of publication in the Proceedings.

Descriptions of some new Marine Invertebrata. By WM. STIMPSON, Zoologist to the U. S. Surveying Expedition to North Pacific, Japan Seas, etc., under direction of Commander C. Ringgold, U. S. N.

(Communicated by the Smithsonian Institution.)

ECHINODERMATA.

1. OPHIOTHRIX SPONGICOLA. Disk covered with short spines, except on the large triangular plates at the bases of the arms; the sides with scattered, minute spines; the interbrachial plates below subrhombic in shape. Arms in length seven times the diameter of the disk, broad near their origins but very slender at their extremities; lateral spines six in each row, the upper ones being largest, subclavate, with rounded extremities, compressed and distantly serrated.

The spines near the extremities of the arms are, however, generally pointed. Disk reddish, with black spots symmetrically arranged; arms red, broadly annulate with black; spines pale brownish. Diameter, 4 inches. Found among soft sponges in the circumlittoral zone.

Hab. Australia, at Port Jackson.

2. *OPHIOTHRIX PLANULATA*. Disk and arms much depressed; the latter in length ten times the width of the former. Disk small, smooth and glossy above; arm-plates broadly triangular, separated from each other by a row of the small plates with which the rest of the disk is covered. Below, the sides of the disk, between the arms, are soft and covered with short spines; the interbrachial plates subrhombic, but not very distinct. The mouth-fissures have each two large suckers, but no papillæ on their sides. Arms suddenly tapering at the middle; their superior plates trapezoidal and minutely granulated; lateral spines five in each row, the middle ones largest, compressed, with blunt extremities, longitudinally striated, and denticulated on their edges. Disk dark greenish; arms colored with red and light brown alternately: below white. Taken in fifteen fathoms among dead corals, on "Croper Shoal," in S. Lat., 20° E. Lon. 180½.

3. *OPHIOLEPIS PERPLEXUS*. Arms filiform, in length about seventeen times the diameter of the disk. Dorsal surface of the disk covered with small scales, the arm-plates of each pair being elongated, very narrow, broadest exteriorly, and including a triangular space between them; ventral surface with the interbrachial plates broader than long; mouth with a pair of large scale-like papillæ at the summit of each projecting angle, and a pair at the base of each fissure. Lateral spines of the arms five in number in each row, short, thick, and pointed. Disk above dark greyish; arms purplish-brown, darker and lighter alternately; below reddish. The disk is very soft and is always cast by the animal when caught; the slender arms then twisting together in all directions. Found in the circumlittoral zone in mud.

Hab. Australia, at Port Jackson.

4. *THYONE BUCCALIS*. Subfusiform, of a brownish-grey color, with the suckers small, uniformly distributed over the whole surface. Anus with five calcareous papillæ. Tentacula much branched, ten in number, two of which are much smaller than the rest. The oral column is the most remarkable feature in this species, it being about one-half as long as the body, and consisting of a flexible calcareous cylinder, contorted below, and sending ten short spurs of points upward, and five pairs of long twisted ones downward. Its flexibility is owing to the circumstance that its calcareous matter is deposited in the form of irregular plates connected by softer parts. The inferior spurs thus seem jointed. Length, 2 inches; breadth, 0.35 inches. Taken near low water mark, under stones.

Hab. Australia, at Port Jackson.

5. *CHIRODOTA AUSTRALIANA*. Small, and very slender; surface covered with papillæ of two kinds; the smaller and less conspicuous of which are spread everywhere, and consist of accumulations of spiculæ, which are hooked at one extremity and slightly bent at the other. The larger kind are scattered, quite thickly, along one side of the body only; and are prominent, circular, white, calcareous, varying in size from 1-40th to 1-20th of an inch in diameter; they are composed of accumulations of minute, six-spoked wheels. The tentacula are ten in number, each having ten serrulated digitations, placed on the outer and the lateral margins of a sort of disk, which forms the anterior half of the inner side of the tentacle. Color, pale yellowish. Length, 2 inches; breadth, 0.2 inch. Found under stones, near low-water mark.

Hab. Australia, at Port Jackson.

6. *SYNAPTA DOLABRIFERA*. Slender, but rather short, of a dirty yellowish color; skin very thickly provided with hook-bearing plates, which have usually

about ten perforations, the middle ones largest. The hamulæ are a little larger than the plates, pickaxe-shaped, with the extremity of the handle also provided with a double hook, though of very small size. Tentacula twelve, digitate nearly to their bases; digitations short, about fourteen in number to each tentacle. Length 2 inches. Found under stones, near low-water mark.

Hab. Australia, at Fort Jackson.

TUNICATA.

7. *CYNTHIA ANGULARIS*. Small, elongated, with a small base, and seven or eight longitudinal ridges; test coriaceous, nearly smooth between the ridges, of a pale yellowish color; apertures square, at the extremities of short tubes which are placed close together at the extremity of the body; each tube with four longitudinal reddish bands corresponding to the angles. Length, 1 inch; breadth, 0.3 inch. On sea-weeds in the circumlittoral zone.

Hab. Cape of Good Hope, at Simon's Bay.

8. *CYNTHIA LÆVISSIMA*. Egg-shaped; test very thick, of a pale orange color, very smooth and glossy; apertures small, red. Branchial sac with about 20 folds, and with twenty elongated, fimbriated tentacles at its apertures. Some of these tentacles, as is usually the case in this genus, are much smaller than the others. Length 1 inch. Found under stones in the lower part of the littoral zone.

Hab. Australia, at Port Jackson.

9. *CYNTHIA SABULOSA*. Rounded, laterally compressed, usually attached by one or more short stalks. Test strong and hard, but not very thick; surface covered with sandy particles, which adhere so strongly as to form part of its substance. Apertures on slight prominences, the branchial largest and dotted with black. Branchial folds eight in number, narrower than their interspaces. Branchial tentacles simple, filamentary, long and very numerous. Diameter 1 inch. Found in the circumlittoral zone, on muddy bottoms.

Hab. Australia, at Port Jackson.

10. *CYNTHIA DUMOSA*. Globular, of a yellowish-brown color; surface villous, and provided with numerous stout, sub-conical processes of the test, which have short irregular branches. Apertures cross-shaped when contracted; the branchial more than twice the size of the anal. Branchial sac with twelve very large folds, which are much broader than their interspaces. Tentacula also twelve in number, including four or five small ones; biserrate, folded longitudinally, and curved so as to present their pinnæ toward the branchial cavity. Diameter 1 inch. Found in the circumlittoral zone, on muddy bottoms.

Hab. Australia, at Port Jackson.

11. *MOLGULA INCONSPICUA*. Small, free, bullet-shaped; test thin, brittle, with a thin but solid coating of sand; apertures clear, transparent white; the branchial six-rayed; the anal with four well-marked lobes. Branchial sac with eight folds equalling their interspaces in width. Diameter, half an inch. Found in the circumlittoral zone, on sandy bottoms.

Hab. Australia, at Port Jackson.

12. *ASCIDIA SYDNEIENSIS*. Gregarious, several specimens growing together in one mass. Test irregular in shape, thin, often translucent, of a pale purplish color. Apertures on long tubes, which are marked with longitudinal ridges corresponding in number with the rays of the apertures; the branchial having seven, the anal six rays. Branchial sac finely reticulated, the transverse threads much less prominent than the longitudinal ones. Tentacula simple, thread-like, about one hundred in number, curved and projecting into the cavity so as to form a dome-like filter for the water as it enters the branchial sac. Length 1½ inches. Found near low-water mark, among rocks.

Hab. Australia, at Port Jackson.